

Abstract

A transceiver system is described herein that has an antenna coupled to a filter unit which is coupled to multiple radio base stations (RBSs). Each RBS uses one TX/RX cable and if needed a RX cable to connect to the filter unit. To enable the RBSs so they can share one antenna, each RBS has a duplex filter incorporated therein. And, the filter unit has a unique combination of diplex filter(s), duplex filter(s), part-band duplex filter(s), diplex-duplex filter(s), splitter(s) and/or low noise amplifier(s). Four exemplary embodiments of the transceiver system are described herein to show how the filter unit can be configured so as to enable the RBSs to share one antenna even if the RBSs share the same frequency band and/or even if the RBSs operate with different radio standards (e.g., TDMA, CDMA, WCDMA and GSM). Also described herein in accordance with the present invention are: (1) a method for constructing the transceiver system; (2) a radio base station; and (3) an antenna.